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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,026	11/05/2001	Johnny R. Brezina	AUS920010591US1	2404

7590 10/30/2003

Intellectual Property Law Dept.
IBM Corporation
11400 Burnet Road, Zip 4054
Austin, TX 78758

EXAMINER

CHAMBLISS, ALONZO

ART UNIT PAPER NUMBER

2827

DATE MAILED: 10/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/007,026

Applicant(s)

BREZINA ET AL.

Examiner

Alonzo Chambliss

Art Unit

2827

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) 2, 12 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-11, 13-21, 23 and 24 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

1. Amendment A filed on 7/22/03 has been fully considered and made of record in Paper No. 4.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 3-11, 13-21, 23, and 24 have been considered but are moot in view of the new ground(s) of rejection.

In regards to Kim and Giboney discloses a flexible circuit having a plurality of electrical layers further comprising a power layer, a ground layer, and a signal layer, wherein the power layer, the ground layer, and the signal layer are separated by a dielectric material. The newly cited McMahon is relied upon to disclose a flexible circuit having a plurality of electrical layers further comprising a power layer, a ground layer, and a signal layer, wherein the power layer, the ground layer, and the signal layer are separated by a dielectric material (see col. 2 lines 46-68 and col. 3 lines 1-32; Figs. 2 and 6).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1, 3-11, 13-21, 23, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. (U.S. 6,492,698) in view of Giboney et al. (U.S. 6,318,909) and McMahon (U.S. 5,362,656).

With respect to Claims 1, 7, 8, 11, 17, 18, and 21, Kim teaches a heat sink 210, the heat sink 210 having a heat sink vertical portion and a heat sink horizontal portion, the heat sink vertical portion being oriented about 90 degrees from the heat sink horizontal portion. The heat sink 210 removes heat thermally connected to the vertical and horizontal block. A forward vertical carrier 230 having an optical converter 240 (i.e. lens), the forward vertical carrier 230 being attached to the heat sink vertical portion. The second portion of 230 serves a rearward horizontal block, the rearward horizontal block being attached to the heat sink horizontal portion. A flexible circuit 304 operably connected between the forward vertical carrier and the rearward horizontal block, wherein the flexible circuit 304 having a plurality of electrical layers (see col. 5 lines 5-29 and col. 7 lines 6-1 5', Figs. 2-5). Kim discloses that the construction (i.e. the type of

layers of the circuit) is well known to those of ordinary skill in the art (see col. 5 lines 23-29). Thus, it is well known that the plurality of layers consist of a power layer, a ground layer, and a signal layer as evident by Giboney (see col. 9 lines 1-10). Therefore, it would have been obvious to one skilled in the art of flexible circuit to have a plurality of layers consist of a power layer, a ground layer, and a signal layer, since the flexible circuit can be ground while supplying the proper signal and power between electronic components. With the presence of the plurality of layers present in the flexible circuit to one skilled in the art would see the forward vertical carrier 230 of Kim having a component face, wherein the component face has a ground land and a power land in the plane of the component face, since the flexible circuit 304 is on the component face of the vertical carrier 230. Kim-Giboney both fails to disclose a flexible circuit, wherein a dielectric material separates the power layer, the ground layer, and the signal layer. However, McMahon discloses a flexible circuit wherein the power layer, the ground layer, and the signal layer are separated by a dielectric material (see col. 2 lines 46-68 and col. 3 lines 1-10; Fig. 2 and 6). Kim-Giboney and McMahon all have substantially the same environment of an optical device attached to a flexible circuit. Therefore, it would have been obvious to substitute the flexible circuit with power layer, the ground layer, and the signal layer are separated by a dielectric material for the flexible circuit taught by Kim-Giboney, since the flexible circuit would reduce cross-talk between the lines and that maximizes the lead density of the package as taught by McMahon.

With respect to Claims 3, 4, 13, 14, 23, and 24, Kim teaches wherein the optical converter 240, 430 is a laser or photodetector (i.e. lens) (see col. 5 lines 5-12 and col. 6 lines 30-42).

With respect to Claims 5, 6, 15, and 16, Kim teaches an electronic component die (i.e. laser array) 430 thermally connected to the forward and rearward horizontal block 230 by the flexible circuit (see col. 6 lines 30-42, Figs. 2-4).

With respect to Claims 9 and 19, one skilled in the art would readily recognize that a laser die 430 of an array of lasers taught by Kim would be attached to the ground land on the flexible circuitry and a photodetector die 240 of Kim would be attached to the power land of the flexible circuitry, since the laser die needs a ground land for protection of the circuitry in the system and a photodetector die relies on power land to generate a response from incoming light source displacement between them. Therefore, it would have been obvious to incorporate the connection between the laser die and the ground plane while photodetector die is connected to power land of the flexible circuitry with the device of Kim, since the laser die needs a ground land for protection of the circuitry in the system and a photodetector die relies on power land to generate a response from incoming light source displacement between them.

With respect to Claims 10 and 20, Kim teaches a lens housing assembly 250 aligning an optical lens 240 with optical converter (see col. 5 lines 5-11, Figs. 2 and 5).

Conclusion

5. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

The prior art made of record and not relied upon is cited primarily to show the process of the instant invention.

Conclusion

6. Any inquiry concerning the communication or earlier communications from the examiner should be directed to Alonzo Chambliss whose telephone number is (703) 306-9143. The fax phone number for this Group is (703) 308-7722 or 7724.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-7956

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AC/October 20, 2003


Alonzo Chambliss
Patent Examiner
Art Unit 2827